

## Market Overview

The economy grew at a stronger than expected pace in the third quarter. The Gross Domestic Product (GDP) surged to 4.9%, an increase from 2.1% growth in the second quarter. Robust consumer spending fueled growth as Americans opened their wallets on things like concerts, movies, and vacations but increases were seen across almost all sectors.

While a soft landing scenario is becoming more plausible, several factors are still weighing on the outlook: the labor market is showing signs of cooling, labor strikes and instability stemming from a potential government shutdown, the resumption of student loan payments and spiking energy prices eating into budgets, tighter financial conditions and a federal funds rate that becomes more restrictive as inflation retreats, further dampening interest-sensitive sectors of the economy such as housing, auto sales, and privately-financed commercial real estate activity.

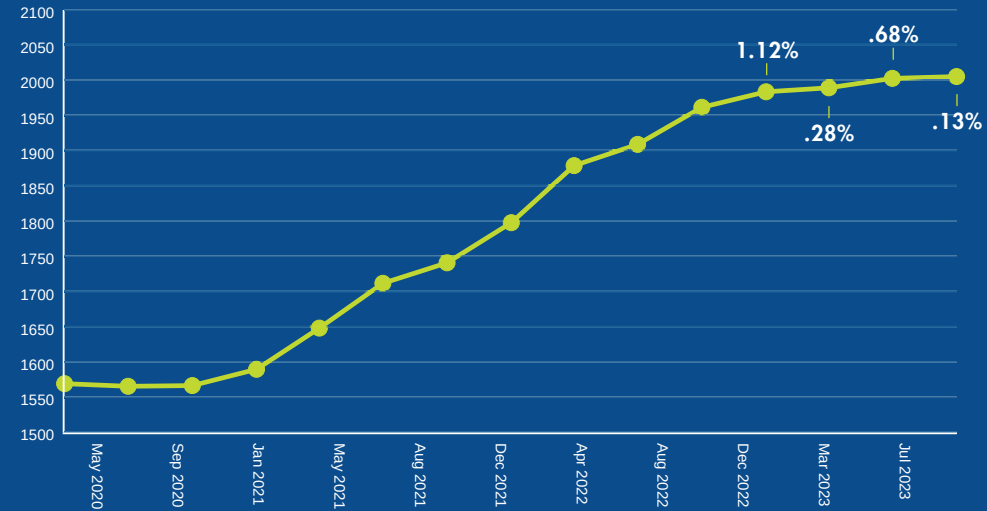
On the construction front, material costs have largely stabilized though we are still seeing some volatility in categories such as concrete and diesel fuels. We continue to see labor shortages as the biggest frustration for General Contractors and though government funding programs are providing support for manufacturing construction, the multifamily, commercial and office sectors are experiencing more headwinds as funding gets harder to come by.

### LABOR & MATERIAL TRENDS THIS QUARTER

LABOR WAGE CHANGE		MATERIAL PRICE CHANGE	
Bricklayer	0.00%	Steel	-1.94%
Carpenter	0.00%	Copper	-2.14%
Electrician	0.00%	Aluminum	-3.95%
Glazier	0.00%	Diesel	19.50%
Ironworker	2.24%	Ready Mix	7.70%
Laborer	4.27%	Lumber	-0.89%
Operator	0.00%	Other Materials	0.94%
Plumber/Fitter	0.00%	Gypsum	0.00%
Roofer	3.48%	Glass	-1.69%
Sheet Metal Worker	0.00%	Sheet Metal	-0.33%

\*Other Materials consists of brick, block, precast insulation, floor covering, ceilings, and miscellaneous materials

### Charlotte Escalation Q3 | 2023



## THE CHARLOTTE MARKET

Construction in the Charlotte area continues to see a slowdown in developer-driven project starts, largely due to the increasing difficulty of financing. This slowdown is expected to continue into 2024 and is putting downward pressure on construction pricing as backlog continues to slide. Projects that are able to commit to a start date over the next 6-9 months should be able to capitalize on this downward pressure with lower construction costs.



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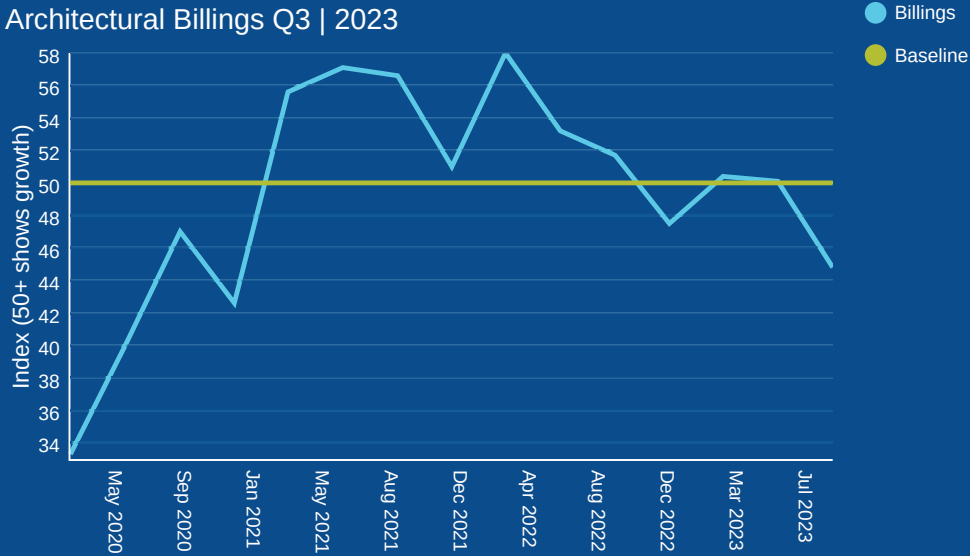
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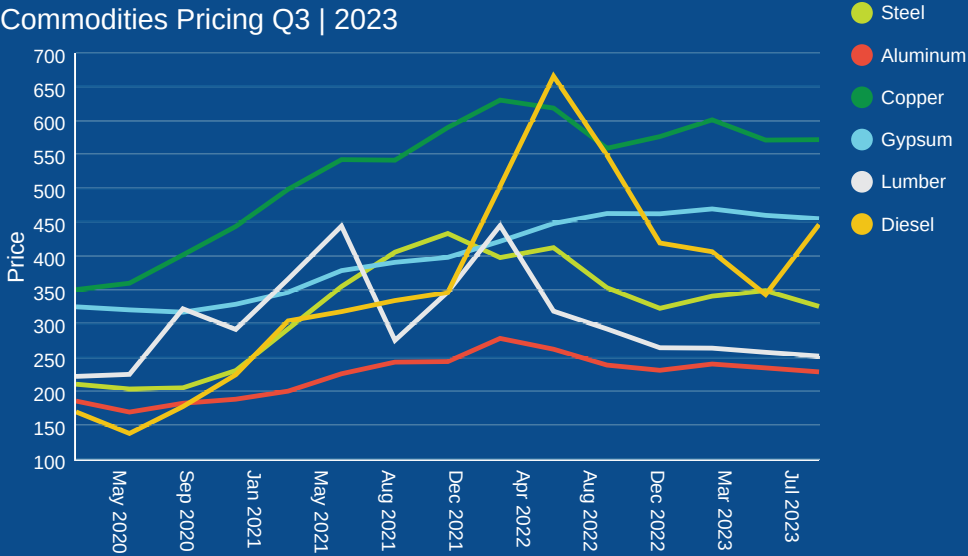
# NATIONAL CONSTRUCTION INDICATORS

## ACTIVITY & PRICING METRICS

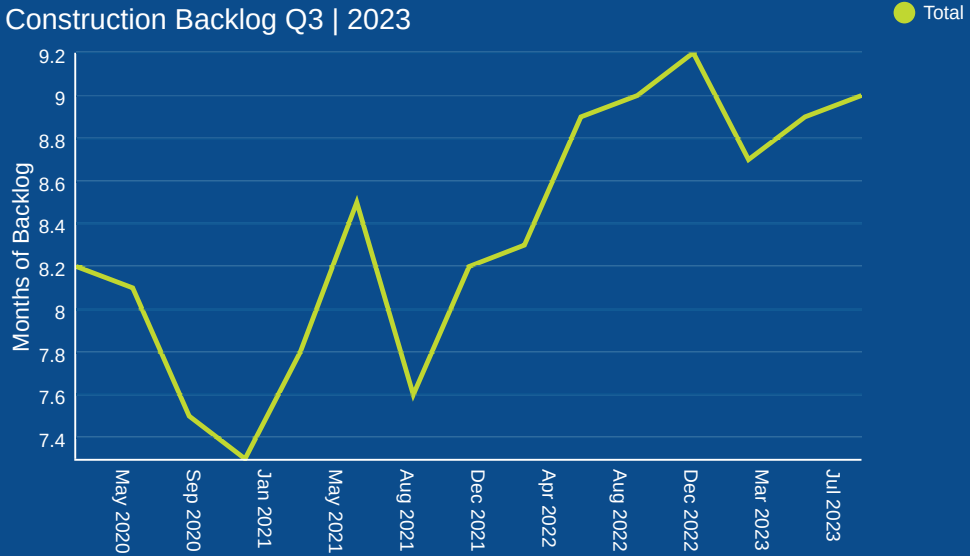
Architectural Billings Q3 | 2023



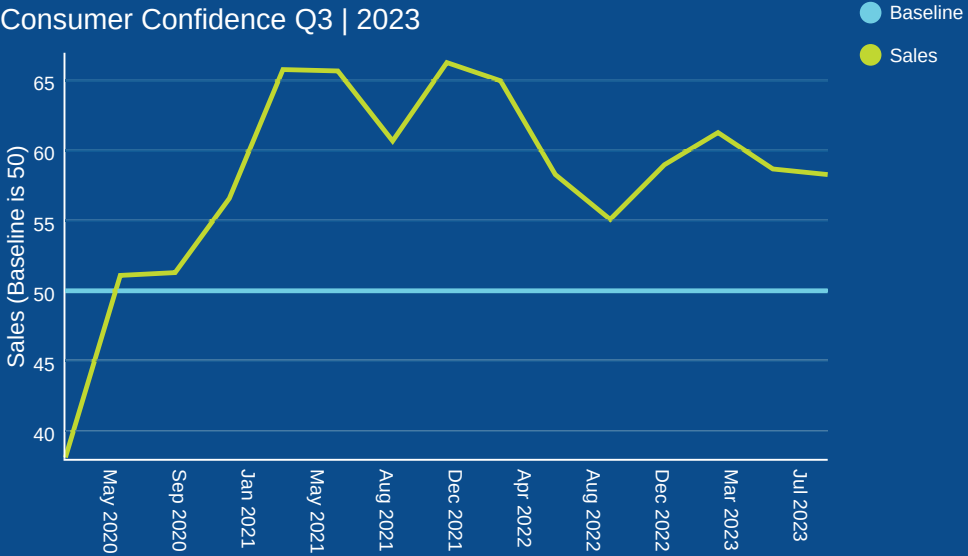
Commodities Pricing Q3 | 2023



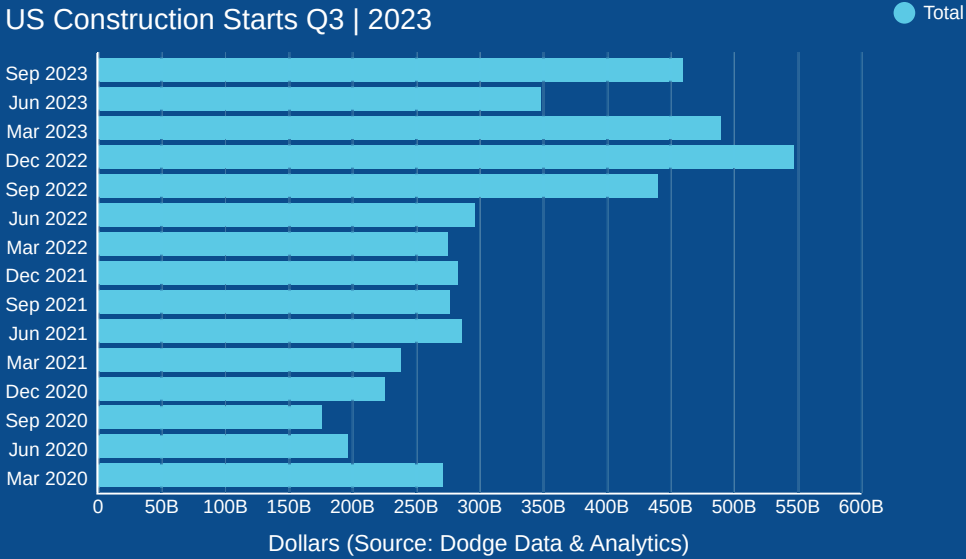
Construction Backlog Q3 | 2023



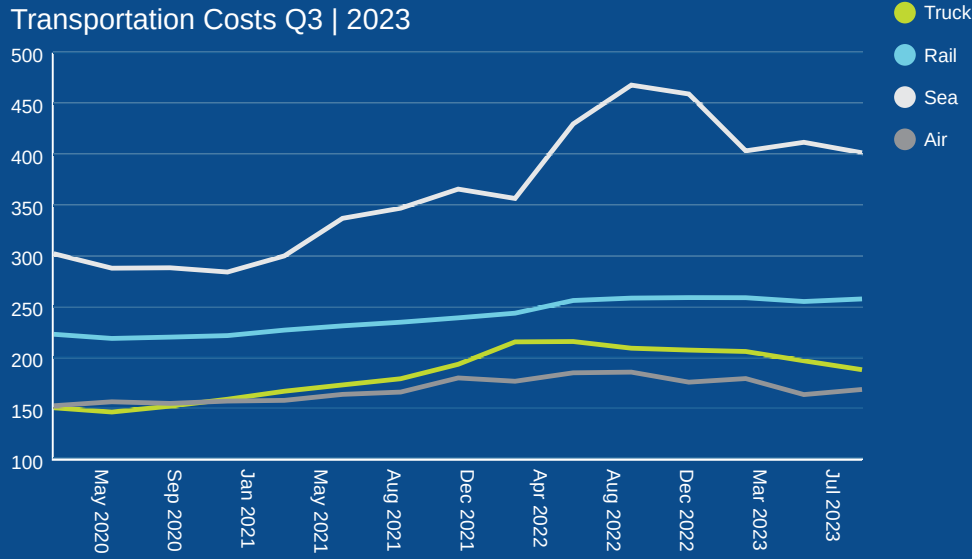
Consumer Confidence Q3 | 2023



US Construction Starts Q3 | 2023



Transportation Costs Q3 | 2023



QUARTERLY ESCALATION SNAPSHOTS

To give you an idea of how escalation is impacting different parts of the country, here is a snapshot of the escalation changes our offices reported specific to their markets in Q3.2023.

Atlanta, GA:	+0.38%
Austin, TX:	-0.05%
Charlotte, NC:	+0.13%
Dallas, TX:	+0.08%
Denver, CO:	+1.08%
Houston, TX:	-0.14%
Kansas City, MO:	+1.79%
Minneapolis, MN:	+1.11%
Nashville, TN:	+0.14%
Oklahoma City, OK:	+0.66%
Omaha, NE:	+0.97%
Phoenix, AZ:	+1.24%
Portland, OR:	+2.24%
Savannah, GA:	-0.30%
Tampa, FL:	+2.09%
Williston, ND:	+0.71%

## AVIATION

As we near the end of 2023, passengers are once again filling the nation's airports. Air travel has hit several post-pandemic records this year with no signs of slowing down heading into the upcoming holiday season. Airlines are enjoying near record profits, airports have resumed Capital Improvement Plan (CIP) projects paused by the pandemic, and three of the four largest U.S. carriers have reached new long-term labor agreements with pilots promising higher salaries and improved working conditions as travel demands remain buoyant. But even as the industry is once again in a steady climb, modernization, sustainability, and investment are key challenges that must be addressed.



In this Spotlight, Alex Vidarti, JE Dunn's aviation preconstruction leader, discusses aviation trends and the trajectory of U.S. airport infrastructure needs. JE Dunn's aviation market has contracted over \$2 billion in projects and completed work on more than 18 airports from coast to coast. JE Dunn's aviation expertise and diverse portfolio allow owners to focus on improvements that speak directly to elevating the passenger experience.

### AIRPORT CONSTRUCTION MARKET IS TAKING OFF

Earlier this year, Airports Council International – North America (ACI-NA) updated their U.S. Airport Infrastructure Needs Report. The report highlights the increasing and staggering need to invest in updating the nation's airport infrastructure. ACI-NA's assessment finds airports in the United States collectively need \$151 Billion in investment over the next five years to meet current needs. This represents an increase of over 30% to address the backlog of planned and necessary projects put on hold during the pandemic. Airports are scrambling to meet the growing demands of increased air travel with outdated infrastructure and they don't have time to spare.

In 2023, passenger traffic is expected to meet or exceed 2019's record breaking traffic levels in the United States. By 2040, passenger traffic is forecast to increase by 158%.

While material cost escalation and cost of labor increases account for a portion of the change, aging infrastructure adds new project needs each year. Of note, is the increasing need to invest in the expansion and redevelopment of terminals at the nation's airports. Airport terminal facilities were expanded significantly during the 1980s and 1990s after airline deregulation in 1978. The proliferation of new routes, airlines, regional jets, and lower fares dramatically increased passenger volumes. These facilities require large investments to maintain, update, or replace as they reach the end of their useful life cycle.

Traditionally, airports have relied on Airport Improvement Program (AIP) grants, Passenger Facility Charge (PFC) local user fees, issuing bonds in the open market, and tenant rents and user fees to finance new terminals. Airports are getting an additional financial boost from Congress through the Bipartisan Infrastructure Law (BIL) and the CARES Act.

### INVESTING IN ECONOMIC SUCCESS FOR OUR COMMUNITIES

Airports have a footprint in every community. Contributing to local economics is a goal for every JE Dunn airport project. These projects provide good-paying work that build skills and capacity in the communities we serve. Airport projects are particularly well suited to engage local trade partners, providing prime opportunities to engage and grow the capacity of disadvantaged, minority-owned, and women-owned small businesses (D/M/WBE).

To maximize participation in Portland International Airport's (PDX) Parking and Rental Car Center, scopes of work were scaled appropriately to optimize participation by disadvantaged firms. By creating smaller packages that fit the capacity and abilities of more D/M/WBE firms, the project was able to award work to 76 contractors and 15 designers. These firms invest back into their communities through wages and payments while creating opportunities to build generational wealth.

### BUILDING EFFICIENCIES INTO THE SMART(ER) AIRPORT

U.S. airports are leading in their commitment to developing sustainable and resilient facilities. As a leading national general contractor, JE Dunn brings innovative solutions to large projects in the aviation, healthcare, and mission-critical sectors – environments that require the highest demand for precision and delivery of results in active, highly secure, and sensitive facilities.

### MODULARITY

JE Dunn employs modularity and prebuild techniques to assure clients of project outcomes and expedited timelines. Modular construction not only grants airports economic advantages, enabling them to realize revenue sooner, but also enhances passenger satisfaction. While significant focus is directed toward large-scale offsite modular construction, JE Dunn equally prioritizes partnering with airport clients to enhance passenger experiences through modular programs, revamping airport terminals from the inside out. A notable initiative entails constructing complete restroom facilities offsite and delivering preassembled modules, reducing the downtime of existing facilities during renovation by an impressive 50%.

### CREATING VALUE THROUGH SUSTAINABILITY

JE Dunn's recent Design/Build projects at the new Kansas City International Airport (MCI) and PDX incorporated many sustainable elements. One area of focus during the design of these mega-structures was reducing cement's CO2 emissions. These projects also provided different economical solutions to reduce CO2 during construction.

At MCI, the garage concrete structure and foundations incorporated a high percentage of SCM (supplemental cementitious materials) to reduce the required quantity of cement, a high carbon footprint building material. At PDX, all concrete used in the project employed CarbonCure concrete, which injects CO2 into the concrete mix to permanently sequester industrial-waste carbon in the concrete and further reduce carbon impacts by allowing a reduction of cement content in the concrete mix. Both offer



economically beneficial solutions to airports working to become net-zero.

MCI's design also included installing the first embedded wireless charging pad in an active roadway at an airport. Working with InductEV, the airport now enjoys the cost-saving benefit of allowing the airport's long-term parking shuttle fleet to recharge while the shuttles remain active in operation. Not only does this solution reduce CO2 emissions, but it will help the airport realize substantial future gains by eliminating fuel costs.

### **PROTECTING COMMUNITY'S MOST VALUABLE ASSET, ACCELERATING AIRPORT RESILIENCY**

The epicenter of electrification efforts may occur at our airports, with current demands on airport grids soon to be further strained by broader adoption of electric vehicles. With a larger selection of EV rental cars, electric-powered ground support equipment, and the rapidly developing eVTOL industry with Advanced Air Mobility (AAM) vehicles expected to be serving many larger airports by the end of the decade. Airport power grids need to be upgraded or replaced to protect a metropolitan area's most important economic driver.

Upgrading and replacing Central Utility Plants (CUP) is becoming a priority in nearly every updated airport Master Plan to tackle this emerging challenge. As an experienced design-builder of large-scale CUP, JE Dunn is a trusted resource. Many JE Dunn CUP projects beyond airports support heavy demand and no-fail environments, such as mega data centers for the world's biggest tech companies and large healthcare campuses.

### **INTELLIGENT TECHNOLOGY INTEGRATION AT AIRPORTS**

Earlier this year, the Airports Council International - North America Annual Conference, a leading airport industry event, underscored the pressing requirement to handle surging passenger volumes within existing airport facilities. Airports worldwide are actively embracing cutting-edge technology, prominently artificial intelligence (AI), to streamline and enhance the processing of higher passenger volumes.

The integration of various airport systems has emerged as an essential economic consideration for the planning and design of terminals, aimed at optimizing space utilization,

workforce efficiency, and delivering an exceptional passenger experience. Notably, airports are increasingly leveraging digital twin technology, allowing them to create virtual models of their facilities to simulate scenarios and pinpoint optimal solutions. This strategic approach not only improves operational efficiency but results in substantial cost savings by avoiding the construction of unnecessary or inadequately designed facilities. Aptitude™, a subsidiary of JE Dunn, serves as a single-source integrator for seamless technology implementation across an airport project.

### **PREPARE FOR TAKEOFF**

America's aging airports must modernize to meet evolving demands and travel needs – from infrastructure to power grids. Sustainable investment is more important than ever to reduce the carbon footprint of airports while offering unique economic solutions to the local communities where we build. JE Dunn has worked on nearly two dozen airport projects and our experts can help you reimagine and redesign with an eye to the future. Our suite of services, including Aptitude™, can help integrate the changing technology landscape and industry's shift to the use of artificial intelligence.



# CURRENT EVENTS

## ABI

The Architecture Billings Index (ABI) is a familiar and closely watched metric in the construction industry due to its correlation to construction activity with a lead time of between 9 and 12 months. It's derived from a monthly survey of architectural firms conducted by The American Institute of Architects (AIA). A score above 50 indicates an increase in billings from the previous month, while a score below 50 indicates a decrease in billings. Anything above 50 is often translated as an indicator of expanding construction spending in 9-12 months, while scores below 50 are read as contracting construction spending in 9-12 months.

From October 2022 to April of 2023, six months produced scores below 50 before pulling back up into expansionary territory with three consecutive months above 50. However, in August the ABI dipped below 50 again and our last data point, September 2023, was the lowest score seen since December of 2020.

Does that mean that the worst is still to come? Not necessarily. To be sure this reflects tighter economic conditions. Rates are high and private funding and investment is getting harder to come by. Though material price growth has slowed, the absolute values are still much higher than what we saw three years ago. The chief economist for the AIA, Kermit Baker, says the report, "shows the hesitance among clients to commit to new projects."

Though these are certainly headwinds for the industry, there are reasons to remain hopeful about the future.

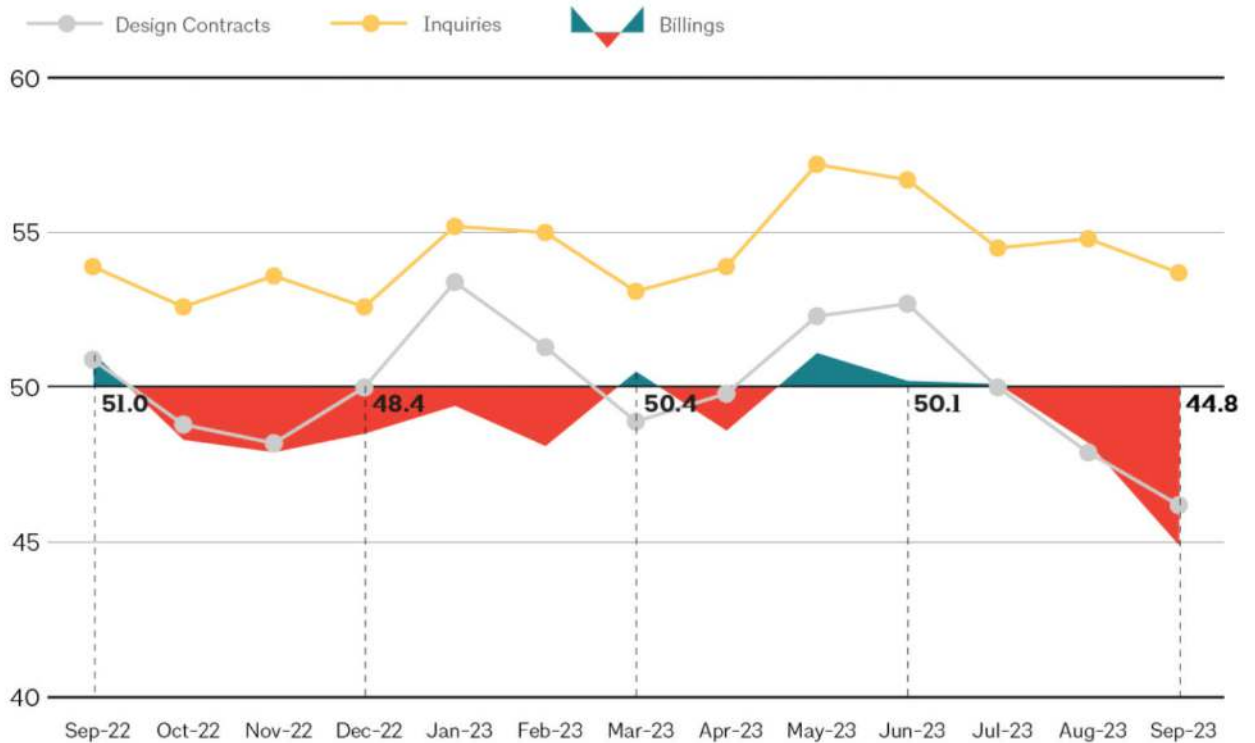
Architectural backlogs are slimming down but are still relatively healthy at 6.5 months' worth of work. The data also shows there were pockets of improvement, like the increase in billing for the surveyed firms focusing on institutional projects. Additionally, the gains we've had in manufacturing construction that came from programs like the CHIPS Act have been made on the promise of funding that we are still waiting on. Once it starts, we will likely see more projects in that sector get approved and make their way through the design stage, boosting ABI values.

While we do expect to see further slowing of the economy in 2024, experts view the slump as more modest and shorter-lived than many of the more recent business-cycle troughs that we've experienced, ending with an economy that should be ready to start firing on all cylinders again shortly afterward.

## National

### Billings decline further in September

Graphs represent data from September 2022–September 2023.



## CURRENT EVENTS *(cont.)*

### **LIBOR and SOFR**

LIBOR, London Interbank Offered Rate, is the interest rate that banks use to lend money to other banks globally, similar to how the Federal Funds Rate is used for US banks, but on a multinational scale. To cover reserve requirements, banks may need to temporarily borrow funds from other banks. Conversely, when banks have an excess of cash, they want to lend that money out to make a profit. LIBOR is the base rate that is used for that funding and as such, it's recognized as an international standard. At least it was until recently.

The earliest beginnings of LIBOR can be traced back to a Greek banker by the name of Minos Zombanakis, who back in 1969 arranged an \$80 million syndicated loan from Manufacturers Hanover to the Shah of Iran based on the reported funding costs of a set of reference banks. The British Bankers' Association formalized the rate in 1986 and surveyed international banks at their London offices.

Setting the LIBOR is currently done by the Intercontinental Exchange (ICE), an American company based in Atlanta. ICE houses financial and commodity marketplaces and exchanges by asking major global banks, "at what rate could you borrow funds, were you to do so by asking for and then accepting interbank offers in a reasonable market size just prior to 11 am?" In other words, the question to the banks is basically "what would your bank charge other banks for a short-term loan?" Then those answers are averaged.

Other industries would then use the LIBOR and add whatever spread was applicable to cover their specific risks. Our Dunn Capital Partners group uses LIBOR (and now SOFR which we'll get to in just a minute) to price existing debt on deals or for short bridge loans, anytime a mutually recognized standard source is needed as a common reference rate for financing. It's a key component of the pro forma on many projects and because it fluctuates and adjusts, it brings an added layer of uncertainty and complexity. That uncertainty gets managed by looking to rate curves and forecasting expectations.

Because the rate was set by taking the average of what banks decided their own rate would be, the opportunity for collusion was always a weakness of LIBOR. In addition to the incentive for banks to underreport funding costs, the rates for Credit Default Swaps (as seen on The Big Short), the abuse of which partially led to the 2008 financial crisis, were set using LIBOR, while that same rate was used for

interbank loans. When the CDS loans proved riskier than initially accounted for, it led to more banks requiring loans while simultaneously making them more reluctant to lend to other banks, perpetuating and transmitting the vicious cycle across the globe.

With LIBOR being seen as a less reliable benchmark, a new standard was needed. Global regulators have since suggested the use of SOFR, the Secured Overnight Financing Rate. SOFR is based on actual overnight transactions in the US Treasury repurchase market, reflecting the cost of borrowing cash overnight collateralized by Treasury securities. As such, it's considered a more robust benchmark, with a deeper and more active market, and less prone to manipulation (fingers crossed).



## CURRENT EVENTS (cont.)

### Construction Input Prices- Copper

Copper is the 3rd-biggest piece of the JE Dunn QCI materials section, and it has been making more headlines in the past few months than usual.

As with most industrial metals, China is the largest consumer of copper in the world, taking in over half of the world's supply. Prices for copper have moved in a similar pattern as steel, with an extremely large run-up in late 2020/early 2021. The price increases were followed by some bumpiness and then a dip that got us halfway back to pre-pandemic levels. That dip was followed by another rally.

Prices have moderated since March of 2023 and analysts are still waiting on China to rebound and drive the price of copper back up. The most recent rally at the end of 2022 was tied to China's announcement that it would drop its tight COVID lock-down policies, reopening the economy and driving up demand expectations. Those expectations didn't materialize however as China's economy has mostly sputtered along, and copper prices have continued to ease in response. According to analysts at Morgan Stanley, Copper inventories have been increasing at a greater rate than usual, suggesting that there will be some further downward price pressure in the near future. Domestic demand for copper is picking up though, especially as manufacturing construction spending continues to increase and residential building is on the mend. This won't be enough on its own to drive prices higher in the short-term.

On the production side, Chile is the largest single supplier of copper (about 25%) followed by Peru (roughly 10%). Chile has experienced environmental challenges to its output such as water shortages along with some political instability, bringing production estimates down for the year. Political turmoil, including widescale protests in Peru, have impacted many of the copper mines, hampering production there.

With supply and demand forces in flux, we are bound to see more choppiness in copper pricing, though estimates for later-term global economic recovery would likely help push demand out ahead, resulting in net upward price pressure. Until then, we can expect more weakness in the months ahead.

